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AMENDED CLAIMS

(forming the annex to the IPER)

1. Breaking device (2) for singularizing ceramic conductor plates (18) along weakening lines (20) on a ceramic conductor plate (18), comprising a breaking trap (4, 6) with support plates (10, 12) displaceable relatively to one another, which can be displaced from an initial position in which the support plates (10, 12) adjoin along a breaking line (14) and form an essentially flat support surface (16) to a breaking position in which the support plates (10, 12) are arranged in an angle toward one another and a pinning device (52, 8) which is formed such that it positions the ceramic conductor plate (18) against the support plates (10, 12) for a breaking operation, wherein the breaking trap (4, 6) comprises two support plates (10, 12) adjoining along a breaking line (14), wherein the support plates (10, 12) comprise breaking line ends (54, 56) adjacent to the breaking line (14), wherein the pinning device (52, 8) comprises an oblong engagement section which is narrow transverse to its longitudinal direction,

wherein the breaking device (2) comprises a positioning element (44) which is formed such that it can position the weakening lines (20) consecutively in alignment with and above the breaking line (14) and wherein at least one breaking line end (54, 56) of the support plates (10, 12) of the breaking trap (4, 6) can be upwardly displaced such that the support plates (10, 12) are arranged such that a fragment of the ceramic plate is exposed for sliding aside and wherein the breaking device further comprises a transport element which is formed such that it can be operationally arranged adjoining the edge of the exposed fragment (38) of the ceramic conductor plate (18) and can then be displaced to slide aside the fragment (38).

2. Breaking device (2) according to claim 2, characterized in that the positioning element (44) is the transport element.

3. Breaking device (2) according to claim 1 or 2, characterized in that the breaking trap (4, 6) is formed such that the breaking line ends (54, 56) can selectively be displaced upwardly into a breaking position or downwardly into a breaking position.

4. Breaking device (2) according to one of claims 1 to 3, characterized in that the engagement section (58, 60) of the pinning device (52, 8) is arranged essentially in parallel to the breaking line (14).

5. Breaking device (2) according to one of claims 1 to 4, characterized in that the pinning device (52, 8) comprises two parallel engagement sections (58, 60).

6. Breaking device (2) according to claim 5, characterized in that the engagement sections (58, 60) are displaceable relative to one another.

7. Breaking device (2) according to one of claims 1 to 5, characterized in the pinning device (52, 8) comprising a breaking knife (8) which is connected to the breaking device (2) such that it can be positioned above a breaking line (14) and be moved in direction of and beyond the breaking line (14), wherein the support plates (10, 12) are arranged resiliently such that the breaking line ends (54, 56) of the support plates (10, 12) are displaced downwardly beyond the breaking line (14) into the breaking position during the course of movement of the breaking knife (8).

8. Breaking device (2) according to one of claims 1 to 7, further comprising a coupling device (30) which is associated with the support plates (10, 12) of the breaking trap (4, 6) such that it synchronizes the movements of the support plates.

9. Breaking device (2) according to one of claims 1 to 8, characterized in a control being provided, which coordinates the movements of the breaking trap (4, 6) with the movement of further elements (52, 8, 44) of the breaking device (2) and comprises an input interface through which the measurements of the ceramic conductor plates (18) to be singularized and the position and/or the distances of the weakening lines (20) arranged thereon and/or the breaking direction can be input.

10. Breaking device (2) according to one of claims 1 to 8, characterized in that a retardation means (42) for the ceramic conductor plate (18) is provided.

11. Breaking device (2) according to one of claims 1 to 10, characterized in that a turning device is provided with which operationally the ceramic conductor plate (18) to be processed and/or its fragments (38) can be rotated about an axis which is perpendicular to the support plates (10, 12).

12. Breaking device (2) according to one of claims 1 to 11, characterized in that a second breaking trap (6) is provided which is arranged in the breaking device (2) such that its breaking line (14) viewed in the plane of the support plates (10, 12) is arranged with an angle relative to the breaking line of the first breaking trap (4).

13. Method for singularizing ceramic conductor plates (18) along weakening lines (20) of the ceramic conductor plate (18), comprising the following steps:

(a) providing a breaking trap (4, 6) having two support plates (10, 12) displaceable relative to one another which can be displaced from an initial position in which the support plates (10, 12) adjoin along a breaking line (14) and form an essentially flat support surface (16) to a breaking position in which both support plates (10, 12) are arranged with an angle toward one another;

(b) positioning a ceramic conductor plate (18) on the support plates (10, 12) in the initial position such that a weakening line (20) along which breaking should occur is essentially above the breaking line (14);

(c) lowering a pinning device (52) comprising two oblong engagement sections (58, 60) on the ceramic conductor plate (18) such that they transmit a pinning force onto the ceramic conductor plate (18) in the zone of two weakening lines (20) adjacent to the weakening line (20), along which breaking should occur;

(d) breaking the ceramic conductor plate (18) by raising the breaking line ends (54, 56) of the support plates (10, 12) of the breaking trap (4, 6) upwardly into the breaking position;

(e) raising the pinning device (52) and releasing the fragments (38) of the ceramic conductor plate (18);

(f) gripping into the gap between the fragments (38, 18) and sliding aside one of the fragments;

(g) returning the support plates (10, 12) in the initial position;

(h) positioning the ceramic conductor plate (18) on the support plates (10, 12) such that a further weakening line (20), along which breaking should occur, is positioned essentially above the breaking line (14); and

(i) repeating the steps (c) to (g) until the ceramic conductor plate (18) is broken along the weakening line (20), along which breaking should occur.

14. Method according to claim 13, further comprising the step of displacing the breaking line ends (54, 56) of the support plates (10, 12) upwardly into a gripping position to enlarge the gap between the fragments.

15. Method for singularizing ceramic conductor plates (18) along weakening lines (20) on a ceramic conductor plate (18) comprising the following steps:

(a) providing a breaking trap (4, 6) with two support plates (10, 12) displaceable relative to one another, which can be displaced from an initial position in which the support plates (10, 12) adjoin along a breaking line (14) and form an essentially flat surface (16) into a breaking position in which the two support plates (10, 12) are arranged with an angle toward one another;

(b) positioning a ceramic conductor plate (18) on the support plates (10, 12) in the initial position such that a weakening line (20), along which breaking should occur, is essentially above the breaking line (14);

(c) breaking the ceramic conductor plate (18) by lowering a breaking knife (52, 8) essentially aligned with the weakening line (20) against the weakening line (20) and against a predetermined force of the support plates (10, 12) and thereby downwardly displacing the support plates (10, 12) into the breaking position;

(d) raising the breaking knife (52, 8);

(e) upwardly displacing at least one of the breaking line ends (54, 56) of the support plates (10, 12) adjacent to the breaking line (14) such that the support plates (10, 12) are arranged such that a fragment of the ceramic plate is exposed for sliding aside;

(f) sliding aside the exposed fragment (38);

(g) returning the support plates (10, 12) in the initial position;

(h) positioning the ceramic conductor plate (18) on the support plates (10, 12) such that a further weakening line (20), along which breaking should occur, is essentially above the breaking line (14); and

(i) repeating the steps (c) to (f) until the ceramic conductor plate is broken along the breaking lines (20), along which breaking should occur.

16. Method according to claim 15, wherein the step (e) comprises displacing the breaking line ends (54, 56) of the support plates (10, 12) upwardly into a gripping position to enlarge the gap between the fragments (38, 18) of a ceramic conductor plate (18).

17. Method according to claim 16, further comprising gripping into the gap between the fragments (38, 18) and sliding aside one of the fragments (38).

18. Method according to one of claims 13 to 17, wherein the movements of the support plates (10, 12) are performed synchronously.

19. Method according to one of claims 13 to 18 comprising the step of retarding the ceramic conductor plate 18 after positioning.